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(54) **A style handle for writing and engraving instruments**

(57) The base portion 10 of the style handle, which is gripped when in use, consists of three, essentially-flat surfaces 17*a*-17*c* arranged in a triadic spiral at a selected pitch conforming with an individual's finger grip when the style is held in a normal manner.

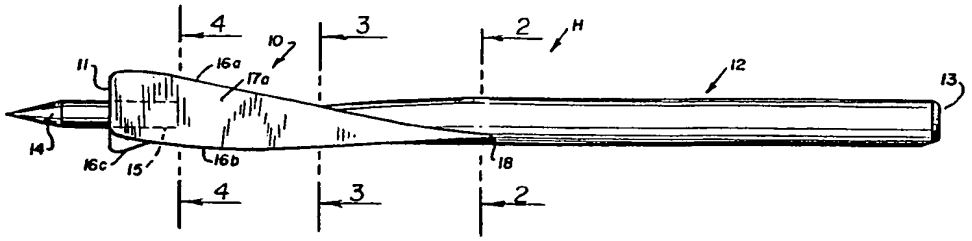

Fig. 1

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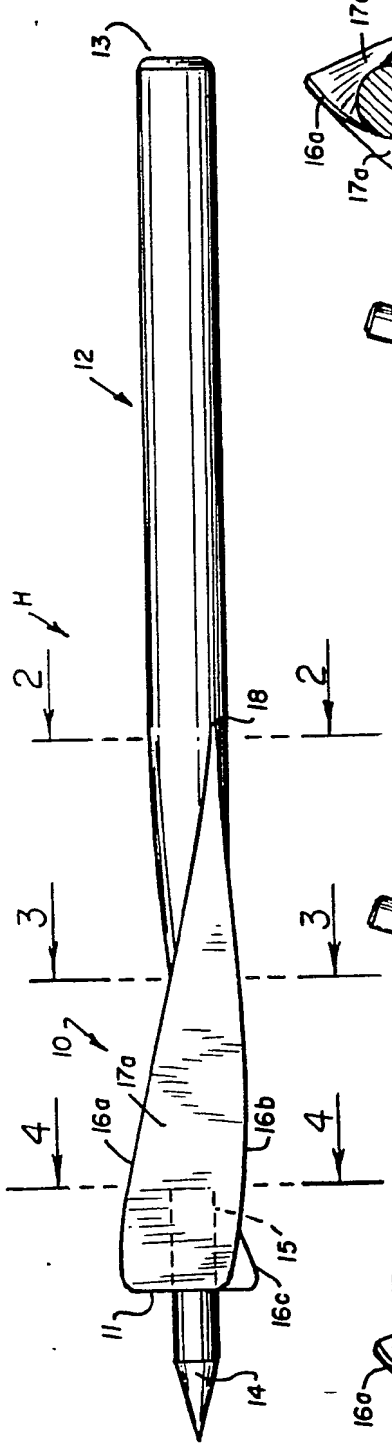

Fig. 1

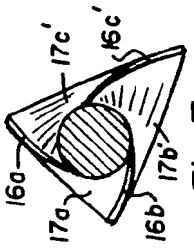

Fig. 7

Fig. 6

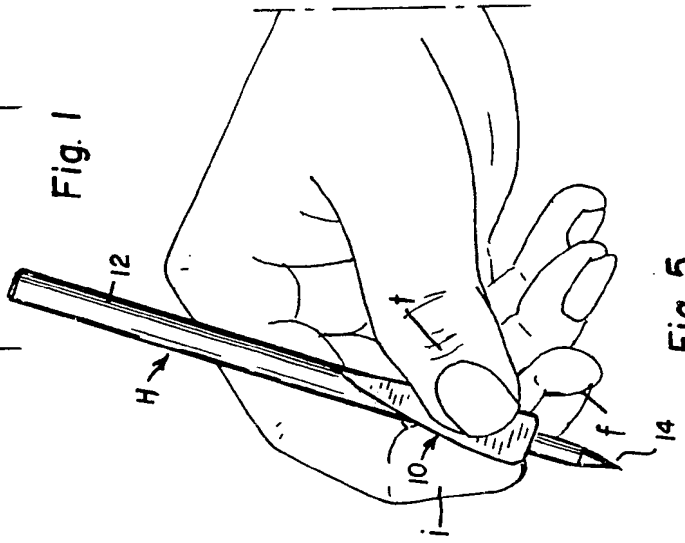

Fig. 5

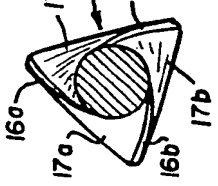

Fig. 2

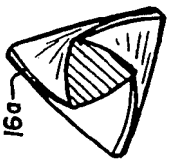

Fig. 3

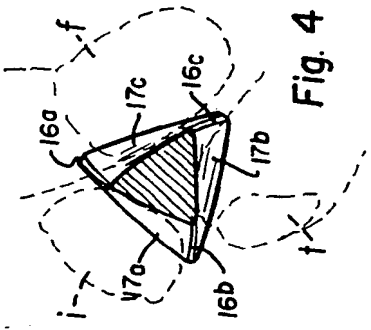

Fig. 4

SPECIFICATION

Style handle

This invention relates to styles, that is, writing instruments, engraving tools and like hand tools, and more particularly to the handles for such styles which are specially formed to facilitate gripping the same. As such, the invention will be hereinafter called a "style handle", and sometimes, simply a "handle".

The use of styles for writing, engraving and similar manual operations extends back to antiquity. The several instruments and tools which are technically referred to as styles are all constructed in a similar manner with an elongated handle holding the stylus, a pen, pencil or other tool, at one end of the handle. While individual writers and artisans may grip the handle in somewhat different ways, the gripping is nevertheless essentially similar in that the handle will usually be gripped between the thumb and the index finger with the side of the individual's third finger forming a base against which the thumb and index finger press.

Often, because of a nervous disposition of a writer or artisan, or because the style handle is slippery, the writer or artisan will grip the handle so tightly that he can create a strain in his hand, especially if he is using the style over a long period of time. The result is writer's cramp or finger bump. Perhaps the main reason for gripping the handle with too tight a pressure resides in the fact that the handle, ordinarily a cylindrical rod, can easily slip and in the case of an ordinary pencil, there is no provision to inhibit this slipping action. Thus, style handles are sometimes formed with an enlargement at their base to provide an abutment whereagainst the end of the index finger may rest. Some types of engraving tools are manufactured in an even more elaborate manner by providing an actual shelf-like abutment about the base of the handle. However, elaborations of a pencil or pen handle are usually missing on conventional, commercial pens and pencils, simply as an economy in production. For example, many types of ball point pens are manufactured by extruding a thick-walled tube to form the handle of the pen.

The present invention aims to provide a novel and improved style handle which conforms to the hand of a writer or artisan so that he may hold the style handle in a relaxed, natural manner conducive of good penmanship and workmanship.

According to the invention, there is provided a style handle adapted to be gripped by a normal finger grip at a gripping portion adjacent to the scribing point at the base end of the handle, and including a haft portion extending beyond the gripping portion, wherein the gripping portion has substantially trifold axial symmetry about the longitudinal axis of the handle and comprises three twisting grip surfaces defining a continuous triadic spiral commencing at the base end of the handle and rotating axially to the haft portion, wherein the edges of said spiral, where the grip surfaces join, are spaced at said base end of the handle at a lateral spacing which is greater than the haft diameter and the spacing of these edges decreases toward the haft to merge into the surface of the haft, and wherein the grip surfaces are widest adjacent to said base, narrow towards the haft and merge into the surface of the haft as the edges merge into the surface of the haft.

According to one embodiment of the invention, the three twisting grip surfaces are substantially identical and uniformly varying and the style handle has threefold axial symmetry about its longitudinal axis. This arrangement permits the handle to be held at any of several positions. Alternatively, a slight emphasis may be provided on one of the spirals which permits the handle to be held at only a single position as is necessary with some types of pens and engraving tools.

The style handle for writing instruments and engraving tools according to the invention permits a writer or artisan to grip the handle with no more pressure than is necessary to press a stylus against a sheet or work piece. For example, the handle of a pen may be held with a very light pressure when writing upon a tablet while the handle of an engraving tool may be held with a greater, but not an excessive pressure, as when an artisan is cutting into the surface being engraved.

The invention will now be further described, by way of example, with reference to the drawings, in which:—

Figure 1 is a plan view of a style, depicted with a scribing point, formed according to the present invention;

Figure 2 is a section taken on the line 2-2 in Figure 1 in the direction of the arrows;

Figure 3 is a section taken on the line 3-3 in Figure 1 in the direction of the arrows;

Figure 4 is a section taken on the line 4-4 in Figure 1 in the direction of the arrows and with dotted lines indicating the thumb and finger positions upon the handle;

Figure 5 is a perspective view of a person's hand holding the style in a natural manner, in accordance with the principles of the invention;

Figure 6 is a perspective view of a person holding the style, as in Figure 5, but with the thumb moved away from the handle to illustrate the manner in which the pen is held between the index and third fingers; and

Figure 7 is a section similar to Figure 2, but showing a slightly modified construction in which the grip surfaces are not identical.

Referring to the drawings, the style handle H comprises an elongated, essentially-straight member having a spiralling, triangular gripping section 10 adjacent to the base end 11 and a cylindrical, haft section 12 adjacent to the opposite upper tip 13 of the handle and with the two sections merging near the centre of the handle H. The handle may be formed of any suitable, rigid material such as wood, metal or plastics, such as is used in the manufacture of pencils, pens and the like. Preferably, it will be made of a selected, high quality plastics material by injection moulding since the spiralled form of the gripping section, hereinafter described, is more easily manufactured by injection moulding than by turning or extrusion operations commonly used in the

manufacture of handles for pencils, pens and the like. However, the mode of manufacture and the material selected is not critical insofar as the present invention is concerned.

In accordance with conventional arrangements, a scribing point 14 extends from the base end 11 of the handle H and is mounted in a convenient socket 15 extending into the body of the handle. It is to be understood that the scribing point 14 and the manner in which it is mounted within a socket 15 in the handle is representative of any of several types of marking and engraving devices, such as pens, pencils, ballpoint cartridges and engraving tools, all of which are commonly mounted upon the base end of a handle, such as the handle H herein illustrated. As a matter of convenience, the same will sometimes be hereinafter referred to as a "scribing tool".

In accordance with the present invention, the gripping section 10 of the handle is formed as a triad of spiralled edges, that is, arrises 16*a*, 16*b* and 16*c* with spiralled flats 17*a*, 17*b* and 17*c* between these arrises, thus producing a twisted rod-like form, triangular in section, and with the diameter defined by the arrises 16*a*, 16*b* and 16*c* tapering from a maximum adjacent the base 11 down to the diameter of the haft section 12 to merge thereinto at a junction 18. The resulting gripping section twists clockwise where the handle is viewed from the haft end 13, as illustrated, and the clockwise twist is advantageous whenever the handle is to be used for right-handed persons. A counter-clockwise twist is preferable when the handle is to be used for left-handed persons. However, for certain purposes, and by certain individuals, the opposite may be true. The arrises are blunted, smooth edges, which lie between a user's fingers, as hereinafter described. The flats 17*a*, 17*b* and 17*c* of this twisted gripping section are illustrated as being slightly convex in section, but they alternatively may be flat or slightly concave and function equally as well when used as hereinafter described.

In the construction shown in Figures 2, 3 and 4, each arris 16*a*, 16*b* and 16*c*, and each flat 17*a*, 17*b* and 17*c* is identical to the others in a symmetrical arrangement so that the handle may be described as having three-fold symmetry about its longitudinal axis. With such symmetry, the handle may be rotated so that it can be held at three different positions, which is advantageous when using certain types of scribing tools such as, for example, ballpoint pens. This simple, symmetrical arrangement may be modified by enlarging one arris 16*c* as shown in Figure 7. When so enlarged, the handle can be comfortably held in only one position. This is advantageous when the scribing tool is a quill pen or an engraving chisel.

As indicated in the drawings, the pitch of the spiral or twist of the triangular gripping section 10, compared with the diameter of the handle H, is quite long. The gripping section 10 is to be held within the embrace of an artisan's or writer's fingers as illustrated in Figure 5, and is, thus, approximately two to three inches long. The twist in this reach is approximately 90 to 120°; thus, the pitch of the spiral, for a 360° twist, will be between 6 and 12 inches, and thus, may even exceed the length of the entire handle. This is in contrast with some types of spiral handles where the pitch is comparatively short.

The haft section 12 of the handle H is illustrated as being cylindrical with a flat tip end 13. However, this construction may be varied to provide any desired form such as a taper or even an enlarged head adjacent to the end. The haft section 12 may also be of any suitable length, short or comparatively long, according to the desires of the manufacturer, but it should be long enough to fit comfortably in an artisan's or writer's hand and long enough to be easily balanced when being used.

Figures 5 and 6 illustrate the manner in which the handle H will normally be held by an artisan or writer. It is gripped in the same manner as a conventional pen or pencil, with the gripping section 10 lying between the individual's thumb, index finger and the third finger. The three flat, spiralled surfaces 17*a*, 17*b* and 17*c* are held by the individual's thumb and fingers while the arrises 16*a*, 16*b* and 16*c* lie in the grooves where the individual's thumb and fingers touch each other. For example, referring to Figure 4, the arris 16*a* may lie in the groove where the individual's index finger *i* and the third finger *f* come together; the arris 16*b* will lie in the groove where the index finger *i* and the thumb *t* come together; and the arris 16*c* will lie in the groove where the thumb *t* and the third finger *f* come together.

Whenever a normal individual holds his hand in a writing position with his thumb, index finger and third finger together, the grooves between these fingers form a natural twist, or spiral, which will, essentially, match the spiral of the gripping section 10. Thus, the handle will naturally fit the individual's grip upon the gripping section of the handle. The third finger *f* forms a base whereagainst one flat surface 17*c* lies when the stylus handle is held in a writing position as illustrated, with the haft section laying against the individual's hand near the knuckle of his index finger as illustrated. The tip of the individual's index finger *i* and the tip of the thumb *t* will then rest against the other two flat surfaces 17*a* and 17*b* of the handle respectively. The twisting arrises will lie in the groove between the individual's thumb and fingers. This will prevent unwanted rotation of the handle while it is being held and used. The spiral form also minimizes any tendency to slip in his hand when the scribing tool 14 is being pressed against a workpiece surface. The spiralled surface actually forms abutments, angled with respect to the handle axis, to provide a longitudinal component of thrust when gripping and pressing against the handle. Not only will the individual discover a maximum degree of comfort and control when holding the handle, he will find that the spiralled gripping section naturally forces him to hold the handle in a proper manner for good, effective engraving and penmanship.

I have now described my invention in considerable detail. However, it is obvious that others skilled in the art can arrange and devise alternate and equivalent constructions which are nevertheless within the scope of my invention. Hence, I desire that my protection be limited, not by the constructions illustrated and described, but only by the scope of the

appended claims.

CLAIMS

1. A style handle adapted to be gripped by a normal finger grip at a gripping portion adjacent to the scribing point at the base end of the handle, and including a haft portion extending beyond the gripping portion, wherein the gripping portion has substantially trifold axial symmetry about the longitudinal axis of the handle and comprises three twisting grip surfaces defining a continuous triadic spiral commencing at the base end of the handle and rotating axially to the haft portion, wherein the edges of said spiral, where the grip surfaces join, are spaced at said base end of the handle at a lateral spacing which is greater than the haft diameter and the spacing of these edges decreases toward the haft to merge into the surface of the haft, and wherein the grip surfaces are widest adjacent to said base, narrow towards the haft and merge into the surface of the haft as the edges merge into the surface of the haft.

2. A style handle according to claim 1, wherein the three twisting grip surfaces are substantially identical and uniformly varying and wherein the style handle has trifold axial symmetry about its longitudinal axis.

3. A style handle according to claim 1 or claim 2, wherein the grip surfaces between the edges are essentially flat.

4. A style handle according to claim 1 or claim 2, wherein the grip surfaces between the edges are slightly convex.

5. A style handle according to claim 1 or claim 2, wherein the grip surfaces between the edges are slightly concave.

6. A style handle according to any preceding claim, wherein said spiral twists in a clockwise direction as viewed from the haft end of said handle.

7. A style handle according to any one of claims 1 to 5, wherein said spiral twists in a counterclockwise direction as viewed from the haft end of said handle.

8. A style handle according to any preceding claim, wherein said continuous triadic spiral rotates axially through an arc of at least 90°.

9. A style handle according to claim 8, wherein said arc is between 90° and 120°.

10. A style handle substantially as described herein with reference to the drawings.

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